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ABSTRACT

Information on research efforts concerning higher education in Sweden is presented. The development of the research program has involved a shift of emphasis among four major problem areas (the role of higher education in society, the organization of higher education, the educational function, and the research function). While in the early 1970s typical studies of educational effects were concerned with various external measures of efficiency and productivity, 10 years later they are mainly concerned with the students' concept formation and the way in which the students acquire attitudes and values regarding the professional activities for which higher education prepares them. Examples of the content of research work are as follows: the long-term effects of higher education; the influence exerted by higher education on specialization and professionalization in working life; the role of higher education in the division of labor in society; the conditions governing the implementation of reforms; the interaction between different knowledge traditions and ideologies of education and research; surface-level and deep-level learning; the development of human sciences disciplines and the content and effects of research training; characteristics of the researcher's personality, including comparisions between natural and human sciences; and research culture and the research community. Current research projects are identified by title, state of completion, by type of project (problem area), and according to whether they are major research reports and doctoral theses to appear in 1982 or 1983. In addition, knowledge and problem surveys are identified by year and problem area, and information on research advisory groups are appended. (SW)

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INFORMATION ON RESEARCH AND DEVELOPMENT FOR HIGHER EDUCATION

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RESEARCH INTO HIGHER EDUCATION
AN OVERVIEW

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NATIONAL INSTITUTE OF EDUCATION
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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The build-up of Swedish research into higher education and its function in society has been in progress since the beginning of the 1970s. This work has been conducted under a special programme whose steering forms assure that the selection of researchers and research ventures is influenced both by research criteria and by practitioners' assessments of relevance. The purpose of the research programme is to articulate and analyse basic issues of higher education, so as to improve our understanding of the conditions in which higher education is best able of fulfilling its tasks. The following is a short summary of the development of the programme during the past decade, together with a few examples of the content of the programme, and some concluding remarks on working procedure. There are also four appendices with information on programme costs, and the composition of the advisory groups, and with lists of the programme's current projects and surveys.

DEVELOPMENT OF THE PROGRAMME

One of the characteristic features of the programme is that it aims at an interaction between perspectives and analytical methods from a large number of disciplines in the social sciences and humanities. So far, within the various problem areas with which the programme is concerned, over 90 projects have been launched in 12 different disciplines and upwards of 30 conferences and problem areas meetings have been held.

Several of these projects have been on a minor scale and have only been concerned with preparations, but in most cases the projects have

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covered a considerable length of time. Research training has formed part of the activities entailed by many projects. So far 27 Ph.D. theses have been produced in the course of the programme. A further 10-15 are in preparation, and most of them should be completed within the next few years.

To begin with the research programme was rather one-sidedly concerned with the educational function of the higher education system, while questions concerning the conditions of university research, for example, received little attention. Most new projects then were concerned either with teaching or with questions concerning the recruitment, selection and success of graduates in the labour market (areas 4 and 1 in table 1 below).

Table 1. Research into higher education. Inputs by areas, 1971-82.

Problem areas	Number of new projects			Percentage of grants		
	1971-74	1975-78	1979-82	1971-74	1975-78	1979-82
1. The role of higher education in society	18	4	3	39	33	38
2. The organization of higher education	8	7	7	16	28	30
3+5. The conditions and potentialities of research, R & D organization and planning	2	7	9	2	21	19
4. The conditions and potentialities of education	18	3	3	43	18	13
TOTAL	46	21	22	100	100	100

Studies of this kind mainly involved psychological and educational researchers; see table 2, below.

Inputs in the other problem areas grew during the second four-year period and, as can be seen from the two tables, they now came to be more evenly distributed both between the various problem areas and between the disciplines involved in this work. This tendency has for the most part held good during the third period, except that economic studies have now been eliminated, and historical and other humanistic inquiries have increased somewhat.

Table 2. Research into higher education. Inputs by disciplines, 1971-82.

Disciplines	Number of new projects			Percentage of grants		
	1971-74	1975-78	1979-82	1971-74	1975-78	1979-82
Philosophy, history, history of ideas, theory of science	1	3	6	2	18	22
Business economics, economics, economic history, geography	7	3	-	9	16	-
Education, psychology	29	7	5	70	39	52
Sociology	7	5	5	18	7	8
Political science	2	3	6	1	20	18
TOTAL	46	21	22	100	100	100

Thus the development of the research programme has implied a shift of emphasis between the four major problem areas (the role of higher education in society, the organization of higher education, the educational function and the research function). At the same time the analysis of each of these fields of inquiry has been deepened, as is apparent, for example, from the fact that typical studies of educational effects in the early 1970s were concerned with various external yardsticks of efficiency and productivity, while ten years later they are mainly concerned with the students' concept formation and the way in which the students acquire attitudes and values regarding the professional activities for which higher education prepares them.

This and other examples of a deeper penetration of the problems studied in the programme can also be taken to show that the purpose of the programme has gradually broadened. To begin with, it was regarded as part of the central decision-making organization of higher education, its task being to improve the input documentation used for planning and control. Now the object is to serve all higher education interests more openly and independently by contributing towards more coherent and, at the same time, deeper knowledge concerning the tasks of higher education, its internal life and its role in society.

This changing view of the research programme can in turn be related to two circumstances, namely the gradually increasing realization that the main benefit of research on such a complex phenomenon as higher education lies in furnishing a background and a general frame of reference for action and not in solving acute

planning problems, and secondly in the establishment of development and evaluation activities which are more closely related to decision making, especially the reform follow-up programme inaugurated in 1976.

Given this more general purpose, it is also natural that the research programme should operate on an interdisciplinary basis. The programme should provide a host of perspectives. The types of study to be included and the disciplines to take part are no less important than the questions and areas to be treated. Research must illuminate higher education from all sides, so that it can be understood and treated not only as an educational or a research system but also, for example, as a political system and - not least, perhaps - as a cultural phenomenon and in a historical perspective.

EXAMPLES OF CONTENT

Two questions relating to the *role of higher education in society* which have been and remain central items of the research programme are concerned with the long-term effects of higher education and the influence exerted by higher education on specialization and professionalization in working life. What exactly happens in the course of studies in programmes preparing students for such professions as those of doctor, economist, engineer, psychologist and teacher, for example? Among other things research has to make clear the way in which concept formation and cognitive development proceed among students and how the students acquire attitudes and values concerning the essentials of their prospective professions and the wider contexts of which those professions form part. The role of higher education in the ongoing division of labour in society has been analysed in several studies and in some of the problem area meetings under the programme. Questions of this kind are also raised in two projects launched recently, one concerning factors influencing the reorganization of the training of public officials during the first half of the present century, and another concerning the role of technical knowledge as a factor of vocational identity.

Two important questions in the research programme on *the organization of higher education* concern the conditions governing the implementation of reforms and the interaction between different knowledge traditions and ideologies of education and research.

The genesis and implementation of the major reform of Swedish higher education in the 1970s and the attitudes of teachers and researchers to different

aspects of their activities have been analysed and are partly being made a subject of further studies. The programme has also participated in an international comparative study of the implementation of higher education reforms. Another important ingredient of the research programme comprises studies of ideology and tradition. An attempt has been made in a historical and sociological project to shed light on the organizational development of higher education from *Bildung* to *Ausbildung*. Studies are being made of the knowledge traditions of various educational programmes, including the cognitive attitudes, human attitudes and social attitudes which they inculcate. The aim here is to show conditions governing knowledge development in higher education and, not least, the conditions governing the interaction of various forms of higher education having, among other things, partly different ideas concerning what constitutes good knowledge, and also concerning what constitutes essential knowledge.

An important question in the research programme concerning *the educational function in higher education* can be summarized in terms of surface level learning and deep level learning. Deep level learning presupposes that instruction is made to focus on concepts and content (not methods). Various studies have shown that students' ideas of learning and the way in which one goes about learning something have a crucial bearing on the results of instruction.

Finally, concerning *the research function in higher education*, we may mention a major project under the programme which has dealt with graduate and doctoral programmes in a number of human sciences. The differentiation of these disciplines and the development of their content are analysed over a considerable period of time and are related to the content and effects of research training. Another project, now nearing completion, is a psychological study of the characteristics of the researcher's personality, and tne analysis here includes comparisons between natural and human sciences. A recently inaugurated project is a sociological and socio-anthropological study of research culture and the research community. Questions raised in the programme, but hitherto considered too large (or too difficult) for project ventures, include, for example, the interaction between science and society, e.g. the interaction between the development of the social sciences in Sweden and the development of Swedish society. Several major studies have been devoted to sectoral research, i.e. research financed by the business sector and by governmental authorities other than research councils. One project, for example, has been aimed at elucidating the qualities of research which influence its use outside the higher education system, the qualities of the decision-making process accounting

for the use of research, and the ideas about research, decision-making processes and research utilization which are manifested in research policy. A recently launched continuation project entails a comprehensive empirical study of the way in which sectoral research is governed, the types of knowledge which it seeks to develop, and the way in which its results are used.

WORKING METHODS

Research into higher education is steered by two advisory groups, one comprising researchers in the problem area concerned, and one comprising practitioners in higher education planning and administration. The task of these advisory groups is to evaluate and define priorities concerning the focus of research. Outside researchers also take part in the procedure of defining priorities by means of expert statements.

One or more research groups in several of the participating disciplines - both humanities and social sciences - are being supported over a considerable period of time and through several projects. Stable and lasting relations of this kind are important as a means of counteracting tendencies towards shortsightedness and opportunism in research, and in order to give depth and quality to the work undertaken. Another equally necessary guarantee of quality is the close co-operation which has been established or is being built up between researchers under the programme and the best international research in the field.

We may mention in this connection that in June 1983 the research programme will be holding its third international conference, this time on the subject of "Studies of Higher Education and Research Organization". One of the features of this conference will be a presentation of an international evaluation of Swedish research into higher education.

The research programme is constructed in such a way that it enables qualified researchers - within particularly important problem areas in consultation with a number of higher education practitioners - to define and process fundamental questions for relatively long periods. The procedure which has thus been developed, and which among other things includes problem area meetings and advisory group meetings, constitutes a combined planning and searching process in which interaction between researchers, and interaction between researchers and practitioners are the main ingredients. The interaction among the researchers is needed in order to build up and maintain - in close contact with international

research - the competence without which meaningful research on higher education would never materialize. On the other hand, the interaction between researchers and practitioners is the means whereby research is given a focus and its results utilized. These discussions bring out differences in the ways which researchers and practitioners have of describing and analysing the basic questions of higher education. The new projects under the programme evolve from ongoing research and from the discussions taking place at conferences, seminars and advisory meetings.

Eskil Björklund

1982-06-30

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June 1982

Appendix 1

RESEARCH INTO HIGHER EDUCATION

Inputs by problem areas 1979 -- 83
(Skr T 000)

PROBLEM AREA etc	1979/80	1980/81	1981/82	1982/83
1. The role of higher education in society	435	585	713	900
2. Higher education as an organization	540	680	585	320
3. The conditions and potentialities of research	200	90	140	135
4. The conditions and potentialities of education	250	245	182	200
5. R & D organization and planning	160	175	175	245
Planning of research, conferences, knowledge surveys etc	175	225	205	200
TOTAL	1 760	2 000	2 000	2 000

RESEARCH INTO HIGHER EDUCATION

Current projects

In the following list, "F" indicates that the project will be finished in 1982/83 and "C" that it will be continuing thereafter. "R" indicates major research reports and "D" doctoral theses to appear in 1982 or 1983. References also include the issue numbers of newsletters. "N" indicates that newsletters will appear in 1982 or 1983.

Area 1. *The role of higher education in society*

The role of higher education in the development of the individual (Proj. No. 1.4, Prof. David Magnusson, Psychology)	C	R		79:3
Aspects of education and the division of labour (1.13, Ass. Prof. Bengt Gesser, Sociology)	F	R		N
Education and the labour market (1.14, Prof. Lars Werin et al, Economics)	F		D	N
The expansion of the education sector in Sweden during the 20th century (1.16, Prof. Lennart Jörberg, Economic History)	F	R	DD	N
The equalizing effects of the educational reforms (1.19, Ass. Prof. Ingemar Fägerlind, Education)	F	R		N
University studies and concept of reality. A study of effects of education. (1.21, Ass. Prof. Lars Owe Dahlgren, Education)	C	R		82:2
Long-term effects of higher education (1.22, Prof. Sigbrit Franke-Wikberg, Education)	C	R	DD	80:3
Long-term effects of education among post-secondary students (1.23, Prof. Kjell Härnqvist, Education)	C	R	D	80:4
Working life, education and planning (1.24, Dr. Bo Lindensjö, Political Science)	C	R		81:3
Higher education and knowledge policy (1.25, Rector Gunnar Bergendal)	F	R		80:14
Technical knowledge and vocational identity (1.26, Dr. Boel Berner, Sociology)	C	R		82:7

Area 2. *Higher education as an organization*

Alternative educational structures in the northern educational region (2.5, Ass. Prof. Nils Häggström, Geography)	F		D	N
Production and productivity of Swedish universities (2.6, Prof. Ingemar Ståhl, Economics)	F	R	D	N
The university as an organization: system and environment (2.7, Ass. Prof. Jan-Erik Lane, Political Science)	F	R		N
A study of the implementation of the reform of higher education (2.12, Dr. Yngve Myrman, Political Science)	F	R		N
Problems of management and decision-making in higher education (2.13, Prof. Dick Ramström, Business Economics)	F	R		N
Attitudes in higher education. A survey of post-secondary teachers (2.14, Ass. Prof. Jan-Erik Lane, Political Science)	F	R		79:5
From cultivation to education: A study of the development of Swedish universities (2.15, Dr. Lennart Svensson, Sociology)	F	R		80:9
The process of implementation of higher education reforms (2.16, Dr. Ladislav Cerych, Inst. of Education)	F	R		79:4
Ideology, science and society (2.17, Prof. Sven-Eric Liedman, History of Ideas)	F	R		80:11
Ideologies of education and research in the health-care sector (2.18, Ass. Prof. Aant Elzinga, Theory of Science)	F	R		80:12
Links with research and with working life in sectorized programmes within higher education (2.19, Prof. Edmund Dahlström, Sociology)	F	R		80:13
A book on Roskilde University Centre (2.20, Ass. Prof. Jan Annerstedt, Political Science)	F	R		
Knowledge traditions in the education of pre-school teachers (2.21, Prof. Ference Marton, Education)	C	R	D	81:4
Bureaucrats, education, and public administration (2.23, Prof. Rolf Torstendahl, History)	C	R		82:5

Area 3. *The conditions and potentialities of research*				
The results of graduate and doctoral training (3.2, Prof. Birgitta Odén, History)	F	R		N
Problem-solving style, direction of research and research aptitude (3.7, Margot Bengtsson, research assistant, Psychology)	F	R	D	79:11
Scientific development, research organization, and research careers (3.8, Ass. Prof. Aant Elzinga, Theory of Science)	F	R		N
Research culture and research community (3.11, Katrin Fridjonsdottir, research assistant, Sociology)	C	R		82:6
Area 4. *The conditions and potentialities of education*				
Study skill in mechanics (4.22, Ass. Prof. Lennart Svensson, Education)	F	R	D	79:9
Study interest (4.23, Prof. Lennart Sjöberg, Psychology)	C	R		N
Intellectual maturity as an educational ideal (4.25, Prof. Sören Halldén, Philosophy)	C	R		81:6
Area 5. *R & D organization and planning*				
Practitioners and social scientists - planning and the utilization of social science (5.1, Prof. Edmund Dahlström, Sociology)	F	R	D	78:5
R & D and public policy-making (5.2, Ass. Prof. Björn Wittrock, Political Science)	F	R		80:2
Research policy in Finland, Norway and Sweden (5.3, Prof. Olof Ruin, Political Science)	F	R		
The use of sectoral research (5.4, Dr. Rune Premfors, Political Science)	C	R		82:1
University research and the sectorized R & D system (5.5, Ass. Prof. Aant Elzinga, Theory of Science)	F	R		

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Appendix 3

RESEARCH INTO HIGHER EDUCATION

The composition of the advisory groups, by categories (1972--82)

	72	73	74	75	76	77	78	79	80	81	82
Practitioners/planners											
Universities, colleges	-	-	-	3	3	3	3	3	3	3	3
National Board of Universities and Colleges (and its predecessor)	2	2	2	3	3	4	4	3	3	3	3
	2	2	2	6	6	7	7	6	6	6	6
Researchers (professors)											
Philosophy, history					1	1	1	2	2	2	2
Economics, geography			1	1	1	1	1	1			1
Education, psychology	2	2	2	2	1	1	1	1	1	1	1
Sociology	1	1			1	1	1		1	1	1
Political Science		1	1	1	1	1	1	1	1	1	
	3	4	4	4	5	5	5	5	5	5	5

RESEARCH INTO HIGHER EDUCATION

Knowledge and problem surveys

(Distributed by the R & D unit; Nos. 4, 7, 12, 14, 15, and 24 are in English, the others in Swedish)

Year	No.	Title	Problem Area
1973	1	The activity forms for research training, UKÄ Report 1973:1 (160 p)	3
	2	Evaluation of a reform of higher education, UKÄ Report 1973:2 (277 p)	2, 4
1975	3	Methodological problems in studies of the relation between higher education and the labour market, UKÄ Report 1975:1 (83 p)	1
	4	Methodological problems in university studies in groups, UKÄ Report 1975:16 (195 p)	4
1976	5	Strategies for research and development in higher education, Educational Research Symposium, Swets & Zeitlinger, Amsterdam, 1976 (279 p)	2, 4, 5
	6	The specification of problems and the initiation of research for the field of education, UHÄ et al, Oct. 1976 (91 p)	5
1977	7	The creation and support of a research community on higher education, Martin Trow, R & D for Higher Education 1977:3 (16 p)	3, 5
	8	Concept formation and learning in some university subjects, UHÄ Report 1977:3 (156 p)	4
	9	The research nexus. The link between research and undergraduate teaching, Bengt Abrahamsson, UHÄ Report 1977:10 (81 p)	3, 4
	10	Research into the organization of higher education, UHÄ Report 1977:20 (174 p)	2, 5
	11	The role of higher education in society, report from a project seminar, Nov. 1977, stencil (30 p)	1

Year	No.	Title	Problem Area
1978	12	Learning and Earning. Three essays in the economics of education. (M J Bowman, Å Sohlman, B-C Ysander.) National Board of Universities and Colleges, 1978 (272 p)	1
	13	Studies of research and planning systems, and studies of concept formation and the development of values, report from a project seminar, Oct. 1978, stencil (21 p)	1, 3, 5
1979	14	Division of labour, class stratification and knowledge development, Edmund Dahlström, Sociology Department, University of Göteborg, Report No. 61, 1979 (55 p)	1, 2
	15	Research into Higher Education: Processes and Structures, National Board of Universities and Colleges, 1979 (358 p)	1, 2, 5
1980	16	Knowledge traditions in programmes of higher education, UHÄ Report 1980:4 (67 p)	2, 3, 5
	17	Working life perspectives for research into education, Leif Grahm (ed), UHÄ Report 1980:9 (341 p)	1, 2
	18	Conceptions of knowledge and choices of content in some programmes of higher education, UHÄ Report 1980:10 (159 p)	4
	19	Studies of long-term planning and of sectoral research, UHÄ Report 1980:14 (125 p)	1, 3, 5
1981	20	Empirical qualification research, UHÄ Report 1981:7 (114 p)	1
	21	Studies of graduate and doctoral education and of critical training, report from a meeting of researchers and advisory groups, Febr. 1981 (52 p)	3, 4
	22	Ideology analysis and studies of the history of professions, report from a project seminar, Sept. 1981 (35 p)	1, 2
1982	23	The conditions and potentialities of research, tasks for studies of research and of graduate and doctoral education, UHÄ Report 1982:9 (122 p)	3, 5
	24	Knowledge and Higher Education. A series of colloquia held in 1981/82. Gunnar Bergendal (ed), Liber, Stockholm. *(forthcoming)*	1, 2, 3